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OFFICIAL COMMENT

Analysis of November 30, 2011 Proposed Antidegradation Standard and Implementation Regulation; December 7, 2011 Third Public Notice.

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IDEM released a second notice draft on December 16, 2009 for public comment. In May 2011 it released revised draft requesting the Water Pollution Control Board to preliminarily adopt it. On September 14, 2011 the Board amended the May 6, 2011 draft and preliminarily adopted it.

The comments in this document are on the preliminary adoption version that IDEM released December 7, 2011, for public comment (third notice). Public comments are due December 30, 2011.

The comments are divided into three sections: summary, draft errors and policy changes. I put into "draft errors" what I consider oversights to implement the intended meaning. I put into "policy changes" those significant revisions intended by the Board and IDEM to change State policy.

A. Summary

The primary task before the Board was to fix the well-known deficiencies of the current Great Lakes Basin regulation for new or increased NPDES permit limits specifying how much information of what quality is necessary to provide for an antidegradation demonstration and what criteria should the commissioner use to predictably, fairly and consistently decide about whether to allow an increased loading. This serious deficiency was explicitly noted in the Barnes Report requested by Governor Mitch Daniels. The Governor pledged that would be fixed. Not to fix this means that the antidegradation

decision in Indiana is an unpredictable political decision, a situation unacceptable to environmental advocates and the regulated alike.

A second task before the board was to establish antidegradation implementation procedures for new or increased NPDES permit limits for parts of Indiana not in the Great Lakes Basin. An implementation regulation already exists for the Great Lakes Basin. When antidegradation is required for the parts outside the Basin, IDEM uses the relevant parts of the Great Lakes Basin regulation. Adapting the regulation to the rest of the state as a regulation should be straight forward. The antidegradation standard itself should be federal language. The implementation procedures are at state discretion subject to USEPA approval. That approval for Indiana basic components of a procedure had been given for the Great Lakes Basin.

A third task was to supply in regulation the procedures for the overall improvement requirement of the Indiana General Assembly for Outstanding State Resource Waters when a new or increased NPDES permit limit is requested. This requirement of the General Assembly for a regulation is a decade old.

The proposed regulation does not address the primary task to create a rule and guidelines that are clear and predictable about the nature and extent of an adequate antidegradation demonstration and about the criteria IDEM will use to accept, modify or reject a proposed new or increased NPDES permit limit. That decision remains political at complete discretion of the agency.

The proposed regulation similarly does not establish clear and prediction decision criteria for the overall improvement process in OSRWs. It simply repeats the Indiana statute.

It does establish an implementation regulation for the whole state.

Unfortunately, the proposed regulation does not address either the first or third of the tasks.

And, while not doing the key tasks, the regulation goes well beyond the new or increased NPDES permit limit to expand implementation in Indiana to include wetland filling, stream bank cutting and harbor dredging, trace constituents in an NPDES permitted discharge (both those that need an NPDES permit limit and those that do not need an NPDES permit limit), discharges from an indirect discharger into a POTW for a parameter other than has an NPDES permit limit, and storm water runoff parameters without an NPDES permit limit, point and nonpoint source.

The expansion of loadings have no de minimis thresholds and no written guidance about how what type of information and how much information of what quality is adequate for an

acceptable antidegradation demonstration. There is no direction for IDEM to make a consistent, predictable and fair about how to approve or disapprove a loading for nonNPDES permit loadings. Since these loadings can occur without a formal request (unlike the formal request of a new or increased NPDES permit limit), procedures are flawed because of missing directions about how and how frequently a request for permission for an increased loading is required. For wetland, stream bank cuts and harbor dredging, there needs to be clarity about how the information is different than that required for 401 certification.

It expands the scope of the implementation rule to situations other than the NPDES permit limit without establishing any conditions appropriate for each of those different situations. It changes definitions so that key terms governing the NPDES permit have a different meaning in the water quality standard rule.

B. Drafting Errors

1. **Applicability**

   327 IAC 2-1.3-1(a)

   The antidegradation standard applies to Section 3 and Subsections 4(a) and (b), not just Section 3.

2. **BADCT** 327 IAC 2-1.3-2(3)

   BADCT (Best Available Demonstrated Control Technology) Is defined in this proposed regulation as a "wastewater treatment." This regulation defines wastewater at 327 IAC 2-1.3-57) to be human excreta; grease, fats, septage, etc. It is not industrial waste water, animal manure waste water or any waste other than that in human sewage.

   Therefore the BADCT definition restricts it only for domestic waste treatment, which is inconsistent with the use it seems to be put to in the implementation section of the rule.

3. **Discharger**

   There is no definition of "discharger" in this rule. The definition of "discharge" is being changed in this rule from the existing definition to be different than the Article 5 definition. Is the definition of "discharger" used in antidegradation intended to be different as well? That is significant as to whether for antidegradation a discharger can be an entity other than a point source. The definition of discharge in Article 5 is paired tightly with definition of discharger. (Otherwise the logic for the action described in this rule's definition is "a discharge is a discharge.")

4. ***Short-term, temporary, new, or increased discharges of mercury and nonBCC***

(327 IAC 2-1.3-4(a) and (b))

a) **the exemption from antidegradation demonstration requirement in OSRW in Section 4(a) is just from Section 5; for an Indiana regulation it also must be from Section 7.**

As written, the Indiana-only antidegradation requirement of Section 7 overall improvement project (or $500,000) applies to any such temporary discharge exempt from federal antidegradation.

That is inconsistent with the federal philosophy of allowing such projects to proceed in federal jurisdictional waters without the full-scale burden of an extensive demonstration and lengthy legal conflicts.

It also requires IDEM to develop the concept of a "temporary" water quality improvement project.

b) **Implication for change in definition of discharge**

The Section 3 component of the antidegradation standard refers to "loading." The temporary exception to the standard refers to "discharge." In existing rule, federal tradition and still after this rule would be adopted in Article 5 "discharge" is a point source discharge. This rule changes the definition of "discharge." Without a corresponding definition of "discharger" in this rule, the term "discharge" used for the temporary release is ambiguous as to whether it is just for point source (current antidegradation rule) or for point source and non-point source.

c) What is meant in 4(a) and 4(b) is not "***Short-term, temporary, new, or increased discharges" but rather what is meant is "new or increased discharges that are both short-term <u>and</u> temporary."***

The language as written eliminates the requirement for short-term and temporary.

A list of modifiers connected by "or" means that each modifier can act independently to give the sentence meaning.

Thus the IDEM proposed rule means each of four different things:

An exemption from antidegradation review is allowed for all short-term discharges of mercury and nonBCCs.

An exemption from antidegradation review is allowed for all temporary discharges of mercury and nonBCCs.

An exemption from antidegradation review is allowed for all new discharges of mercury and nonBCCs.

An exemption from antidegradation review is allowed for all increased discharges of mercury and nonBCCs.

Obviously, none of these statements are meant to be true.

Allowing an exemption from antidegradation for either a new or increased discharge of mercury and nonBCCs makes no sense unless the discharge is both temporary and short-term. This is not an "or" situation. "New or increased" is a phrase together. It must be conditioned by the phrase "both temporary and short-term" in order to have the meaning intended.

Therefore I suggest a correction to be for both 4(a) and 4(b):

..."an exemption from the antidegradation demonstration requirements included in section 5 and section 7 of this rule shall be allowed for new or increased discharges mercury and nonBCCs that are both temporary and short-term."

5. **Significant lowering of water quality definition** 327 IAC 2-1.3-2(50)

This is a definition with several problems that need correction. Problems include:

a) Definition is circular

De minimis is not defined in the regulation. If the "de minimis lowering of water quality" of 327 IAC 2-1.3-2(51)(A) is intended as the de minimis in Section 4 despite 327 IAC 2-1.3-2(51)(B) stating: "and none or provisions of the provisions of section 4 of this rules applies" then it is a circular definition. "Significant lowering of water quality" is defined in Section 2 as "de minimis lowering of water quality" which in turn is defined in Section 4 as significant lowering of water quality for NPDES permit limit situations; the definitions of both de minimis and significant lowering should be defined in independent terms

Clarification of significant lowering of water quality and de minimis is critical to be in compliance with State statute (IC 13-18-3-2(q) and (r) with reference to 13 IC 13-18-3-2(l)(1).

Establishing an antidegradation policy with no de minimis, which is what this regulation does for many activities situations addressed is illegal by state law.

b) *Verb is incorrect for de minimis:*

*the loading per se "**is** not greater than de minimis lowering;" the concept rather is that the loading "does not **cause** a de minimis lowering" or "cause" a significant lowering. The load is water is being added to the water; the lowering is happening in the water. See use in antidegradation standard in Section 3.*

I am not suggesting here what should be the meaning of significant lowering and of de minimis, just that for the purpose of the rule, the terms should be unambiguously defined.

6. *Appeal the commissioner approval of an antidegradation demonstration*

327 IAC 2-1.3-6(g)

By Indiana law, any determination of an agency can be appealed by all parties with standing to appeal. This is especially clear for "final determinations."

The proposed regulation adds a new opportunity for an appeal at the point in the middle of an NPDES permit development process or 401 Certification process or any other process addressed by the proposed antidegradation implementation rule where a controlling document will be issued by the agency.

"when the commissioner makes a determination on an antidegradation demonstration, the commissioner shall public notice the antidegradation demonstration according to 327 IAC 5-2-11.2"

Arguably, because that is called a "determination" by the Commissioner which has been public noticed, any aggrieved party may appeal the Commissioner's determination.

Following that process, there then is a "final determination." It is not clear whether this "final determination" comes after comments froim the public notice or after the appeals have been exhausted or whether this is language describing the earlier "determination" as itself being a "final determination.

Be that as it may, any "final determination" itself by a government agency is subject to appeal.

The rule states that, if it is an NPPDES permit being considered, that the "final determination (presumably again after appeal process is exhausted) will be incorporated into the NPDES draft permit and fact sheet. So for an NPDES permit the appeals happen prior to the normal process for the agency to seek comment on the draft permit.

This problem must be eliminated. The challenge comes from informal use of language. What is happening should not be that a party is doing an "antidegradation demonstration" to IDEM any more than the party is doing an NPDES permit or a wetland certification. In all of these situation the party is submitting information for IDEM to do the demonstration and the permit and the certification. For antidegradation IDEM is doing the demonstration as delegated from USEPA, ideally with engagement of EPA prior to its final permit decision. An incorrect antidegradation demonstration is remedied by a citizen suit against USEPA under the Clean Water Act.

There is no good public policy purpose to adding more points of appeal inside the state process than necessary.

For the NPDES permit, the process should be for the party to submit information needed for permit conditions and for antidegradation demonstration. The agency, with appropriate discussion with public and party makes a TENTATIVE DECISION (not a determination and certainly not a final determination) about the draft permit and what it considers a defensible antidegradation demonstration for the draft permit decision. The TENTATIVE DECISION is released as a draft permit and fact sheet for formal public comment. It is only after it has received and considered comments from the public and the discharger that the agency makes its final determination on both the permit and the antidegradation demonstration. That is the final determination that can be appealed through the state process. That should be the only determination.

A similar process should be crafted for the 401 certification inside the 404 permit. There is no reason for extra appeals.

Where there is no control document and this antidegradation implementation applies, there does need to be mechanism for appeal but again that must be crafted for each specific regulatory situation so that system is as efficient as possible.

Not to fix this in the regulation will create inconsistencies and great inefficiencies in environmental protection in Indiana.

7. **Applicability and Demonstration of Implementation Inconsistent with Determination Section With Respect to person or loading versus discharger**

discharge def in 2-1.3-2 is for any regulated pollutant
discharge def in 5-1.5-10 is for any pollutant
discharger in 5-1.5-11 is of pollutant from point source

The new definition of "discharge" for this rule only and the absence of a definition of discharger means that the Board must be extremely careful to be consistent in the application across the rule so that when the Courts determine what the Board meant this to apply to, that is what is meant at each point in the rule.

*The implementation applicability provision (section 1) and the first two implementation sections (4 and 5) of the implementation procedures have been **changed** by IDEM to apply to not only to a new or increased NPDES permit limit but also to wetland filling, stream bank cutting and harbor dredging, trace constituents in an NPDES permitted discharge (both those that need an NPDES permit limit and those that do not need an NPDES permit limit), discharges from an indirect discharger into a POTW for a parameter other than has an NPDES permit limit, and storm water runoff parameters without an NPDES permit limit, point and nonpoint source. (Section 5 (a), where basic information is provided for a demonstration, does use the newly ambiguous term "discharge.")*

Section 6 (Commissioner determination) contains references to "discharge" and even to "discharger." If this proposed rule is adopted, The only definition in Indiana water regulations of "discharger" will be of an entity who has a point source.

Language must be consistent across all parts of implementation rule about who the implantation process are designed to address.

Even where a section explicitly applies to situations other than the NPDES permit limit increase, the language of the section makes sense only in context of an NPDES permit limit process. This leaves open serious gaps in basic procedures and expectations. That in turn creates opportunity for political chicanery with IDEM discretionary decisions changing from staff to staff and administration to administration.

C. Policy Changes in Proposed Regulation Compared to Existing Regulation

1. Expansion of implementation regulation from new or increased NPDES permit limit using language and concepts that only makes sense in context of an NPDES permit limit system

327 IAC 2-1.3-1(b)

a. *Applicability of the antidegradation standard (327 IAC 2-1.3-1(a)*
   - *is restricted to surface waters to be consistent with federal law,*
   - *is expanded to beyond federal jurisdictional waters to include all waters of the state and,*
   - *by its silence, applies to all pollutants.*

   (Section 3, the antidegradation standard partly copies federal language including the concept of "significant lowering of water quality" being allowed but then restricts the applicability of the standard itself to "regulated pollutants" instead of all pollutants.)

b. **Applicability for implementation (327 IAC 2-1.3-1(b)) says this particular implementation procedure in this regulation applies to all "regulated pollutants" (an Indiana set of parameters) that have a "proposed new or increased loading"**

   This proposed implementation regulation is a large expansion of situations covered compared to the current State government discretionary authority of applicability of the antidegradation implementation. The implementation regulation also creates many new situations requiring an antidegradation demonstration with no de minimis and no language tailoring the timing of the new requirement or the demonstration to those new situations.

   i. Expansion of activities covered by antidegradation implementation rule

   The implementation applies now to any proposed new or increased loading, regardless of type. The loading is not just from a new or increased permit limit, although that is included. It is any loading. The scope is broadened but the language is not tailored to make sense for the new activities that IDEM is to use this implementation language to address.

The current implementation regulation for Indiana Great Lakes Basin (327 IAC 5-2-11.3 and 11.7) addresses almost exclusively situations of a new or increased NPDES permit limit. It does allow for requests for significant lowering of water quality for other "permit or reviewable document" but no details are supplied for procedures for those.

This proposed rule expands situations covered by this particular implementation rule to actions other than addressed in permits or reviewable documents. The advantage to the current rule restricting this implementation to an action under a "permit or reviewable document" is

1) there is a well-understood time when the consideration of the loading is to happen because there is already the requirements for a government action under the permit or the reviewable document regulation (hence there already is a point of request for IDEM action before proceeding) and

2) the parameters whose loading is considered are those whose increase is required to have a limit in the permit or reviewable document. The current rule makes it clear when an antidegradation implementation is to be considered and what parameters are the ones to focus on.

(The almost exclusive focus of the existing implementation rule is for NPDES permit situations. It is vague about anything other than that. It does allow for flexibility without details for addressing increase loading of BCC by a "deliberate activity" with a "control document" in the Great Lakes Basin.)

The expansion of scope of the proposed rule eliminates that establishment of a time for when to implement an antidegradation review and what to review for all situations that do not require an action under the NPDES permit system such as trace constituents in point source discharge, indirect discharge increases or nonpoint source storm water. Expansion of implementation to include the 401 Certification (wetlands, steam bank cuts and harbor dredging) is situation where a request is already in the system to trigger the antidegradation review.

In addition, the expansion of scope of the implementation rule into actions other than those that trigger NPDES permit limit adjustment occurs without proper regulatory direction about how to comply or how the government is to decide what is appropriate behavior, the major programmatic deficiency that the regulation does not address even for NPDES permit situations.

ii. No de minimis for situations other than new or increased NPDES permit limit for nonBCC

The current Indiana antidegradation implementation regulations (327 IAC 5-2-11.3 and 11.7) are designed explicitly for activities with greater than significant lowering of water quality.

The proposed implementation regulation applicability section (327 IAC 2-1.3-1(b)) explicitly omits the loading of concern being that greater than significant lowering of water quality. The proposed rule's antidegradation standard in section 3 states that there can be allowed more than a significant lowering of water quality under specific conditions. However, the implementation applicability statement does not incorporate that concept. It implies that that the threshold of that significant lowering should be zero for an antidegradation demonstration unless otherwise explicitly stated differently in the regulation. The implementation regulation does establish a significant lowering of water quality measure for a proposed NPDES permit limit of a nonBCC but not for parameters in the discharge that do not need a permit limit nor for any of the other non NPDES permit situations now covered.

In practice, this means that now the loading for anything other than an NPDES permit limit increase of a nonBCC has no de minimis. Any loading no matter how infinitesimal it is, or its impact is, is subject to the conditions of this implementation regulation. The applicability sentence does end with a phrase stating that included in this new broad scope are "change in process or operation that will result in a significant lowering of water quality" but that phrase is unnecessary and adds no new information. Of course any loading from a specific action causing significant lowering is covered if every activity with a loading of any amount at all is covered.

State law adopted by the 2009 General Assembly requires a de minimis for all situations for which antidegradation is implemented. See IC 13-18-3-2(q) and (r) with reference to IC 13-18-3-2(l)(1). The law does not specify what de minimis should be. There are many ways to do it. But state law requires that there be a de minimis for all pollutants and situations for which antidegradation is applied.

Note in this statute that the General Assembly is assuming that antidegradation implantation procedures in Indiana regulation are for NPDES permit situations.

2. Elimination from this implementation procedure waters of the state that are not federal jurisdictional by restricting to activities "subject to the Clean Water Act" 327 IAC 2-1.3-1(b)

The current Indiana implementation regulation for the Great Lakes Basin includes all surface waters of the State in the Basin. The proposed standard applies to all waters of the State throughout the State. The proposed implementation language applies to all waters through the state but excludes waters that are not under federal jurisdiction.

By restricting the applicability of the implementation only to "activity subject to the Clean Water Act," any activity not impacting a federal jurisdictional water is excluded from the State's antidegradation implementation procedures.

The regulation in 2-1.3-1(a) states that the antidegradation standard applies to loadings on these other waters, but the implementation procedures IDEM is to use are not to be the ones in this implementation regulation.

For example, this implementation excludes isolated wetlands and the moving target of any waters the Court determine to be outside the jurisdiction of the Clean Water Act.

3. Adjustment of BCC Policy

a) Adjustments of BCC loading requirements to Great Lakes Basin

The federal government requires all new BCC loadings to Great Lakes Basin to be given special antidegradation consideration, namely that it should be reviewed whether the purpose for the addition of a BCC could be achieved by a nonBCC. The existing Indiana regulation chose not to have that special antidegradation review but instead contains an absolute prohibition of any increase in loading of a BCC.

The revised rule eliminates the prohibition of new BCC discharges in the Great Lakes Basin except for those BCCs loaded into OSRW in the Great Lakes Basin at a level to cause a "significant lowering of water quality." The revised rule then in section 4(c) excludes BCC from the calculation of an NPDES permit limit the measure of significant lowering of water quality. That means there the "significant lowering" condition is moot; there is no de minimis procedure in regulation for BCC.

Finally, the demonstration language in the revised regulation itself has no special provisions for BCC evaluation, such as can a discharger achieve the same objective by using a nonBCC material.

Therefore the revised rule

i) allows BCC loading into Great Lakes Basin other than OSRW;
ii) effectively prohibits all loading of BCC other than mercury into OSRW in the Great Lakes Basin;
iii) requires all new loadings of BCC to any federal jurisdictional surface waters in the state to undergo antidegradation review without de minimis; and
iv) has no antidegradation procedure specific for replacing the load of a proposed increase of a BCC with a nonBCC.

b) Expansion of regulation of BCC to outside the Great Lake Basin

The proposed regulation has no antidegradation de minimis loading for BCC to apply to the entire state, not just the Great Lakes Basin.

The existing antidegradation regulation for Great Lakes Basin has a special consideration for BCCs in permitted discharges (327 IAC 5-2-11.3(b)(1) – " proposed from any existing or new facility, either point source or nonpoint source, for which a new permit, permit modification, or other control document would be required" - this includes NPDES permitted activities plus "other deliberate activities that, based on the information available, could reasonably be expected to result in an increased loading of any BCC to any waters of the Great Lakes."

The regulatory control of BCC was established and justified by USEPA because it claimed that the Great Lakes Basin was vulnerable to harm from BCCs in a way that free-flowing water systems such as the Mississippi Basin were not. It made the scientific argument that the characteristics unique to the specific aquatic systems of the Great Lakes and the hydrologic flow of the Great Lakes (bath tub with long retention times). The mathematical algorithm for BCC was for the Great Lakes bioaccumulation characteristics of the aquatic system assuming hydrologics of Great Lakes.

The proposed regulation makes the scientific assumption that for Indiana, the rivers, streams and lakes have the same retention as the Great Lakes and the same or equivalent bioaccumulation characteristics of the Great Lakes, counter to the USEPA technical argument.

It may well be that certain waters need special protection from new discharge of the Great Lakes BCCs because the Mississippi Basin aquatic

fish chains are similar with respect to bioaccumulation and fish consumption patterns or it may not be the case.

c) ***BCC Antidegradation Demonstration***

There is no significant lowering of water quality exemption for loading of BCC in Section 4 of the proposed rule.

That means that any new or increased loading of a BCC requires an antidegradation demonstration.

There is no requirement in the demonstration that explicitly requires a discharger to explore option of performing the function with a nonBCC. That was the core expectation by the federal government when the original BCC concept was developed.

The only mention is the fact that an increase loading of a substitute constituent may be allowed a less comprehensive antidegradation review if the substitute has a lower biaccumulative capacity in a Great Lakes Basin ecosystem. That is a completely different concept.

d) Mercury policy

1) Elimination of mercury as BCC for two antidegradation purposes in OSRW in Great Lakes Basin

The existing Indiana antidegradation regulation prohibits absolutely any new or increased load of any BCC (bioaccumulative chemical of concern) into waters of Great Lakes Basin. This is stricter than federal law. Federal guidance for BCCs into Great Lakes Basins is not to prohibit new or increased discharge but to require justification of why a BCC could not be substituted for by a nonBCC.

The immediate problem with an absolute prohibition is that mercury is listed as a BCC but it is present in source water. Mercury is present is rainfall everywhere in the world at approximately 1.5 ng/L due to natural and human causes. Trace levels of mercury is present in all ground water from natural minerals. Therefore all Indiana water sources contain mercury at some concentration. To declare an absolute prohibition of any new or increased load means an absolute prohibition of any new or increased discharge of water. A current impact of this is a prohibition of a new sewage treatment plant to replace septic systems to protect lakes in northeast Indiana. Thus attempts to reduce nutrient load to small lakes is inhibited by this absolute prohibition of increasing the load of mercury.

The proposed regulation removes the BCC discharge prohibition for new mercury loading in OSRW of Great Lakes Basin while keeping the

prohibition for other BCCs. It eliminates the prohibition of discharge for mercury in other waters of the Great Lakes Basin by eliminating altogether the prohibition of new BCC discharges to those waters. However, it does not complete the solution by specifying that an antidegradation review for a BCC into the Great Lakes should include consideration of substituting a nonBCC for any BCC increase in effluent other than that BCC from source water.

Note that any antidegradation policy for mercury does not negate that already aggressive provisions in the NPDES permit limit system to address mercury whatever the source to protect surface water quality to the water quality standard appropriate for the water body. That policy is so aggressive that in order to comply most POTWs need a variance with its own restrictive requirements to find and address mercury.

2) Impact of mercury as BCC throughout state

i) is explicitly excluded from consideration as a BCC from two parts of the BCC antidegradation policy:

- *temporary mercury discharges into OSRW Great Lakes Basin are allowed without antidegradation review (327 IAC 2-1.3-4(a))*
  (there is no exemption for temporary mercury loadings other than point source discharges such as nonpoint source storm water runoff)
- *permanent increases of mercury loading into OSRW Great Lakes Basin is allowed with antidegradation review*

ii) mercury remains as a BCC for purposes of other regulatory provisions:

- *voids the exemption from antidegradation review for expanded POTW due to increasing sewer area et al if there is "no increased loading of BCCs from nondomestic wastes" because there is trace concentrations of the BCC mercury is in all surface and ground water (327 IAC 2-1.3-4(c)(D)(iv)) .*
- *voids the exemption from antidegradation review for noncontact cooling water if there is "increase the loading of BCC" because there is trace concentration of the BCC mercury in all surface and ground water (327 IAC 2-1.3-5(b)(3)(B)).*
- *eliminates any significant lowering threshold for any new or increased NPDES permitted discharger to any water in the state when there is proposed an increase in water discharge; therefore all dischargers increasing water will be required to perform mercury antidegradation review even if not significantly lowering water quality for other loading of permitted parameters.*

(this would also apply to nonNPDES permit limit loadings such as indirect discharger and storm water flows as well but there is no procedure to establish de minimis for nonNPDES permit limit loadings in the first place)

4. No de minimis for significant lowering of water quality for increases other than a new or increased nonBCC NPDES permit limit

327 IAC 2-1.3-2(51) and 327 IAC 2-1.3-4(c)

Because available loading capacity is defined in the proposed regulation in a manner of the NPDES permit mathematical algorithm with concepts such as total loading capacity of a flowing water with a parameter with a numeric water quality standard at its design flow including effluent flow at its maximum permitted flow, there is no means to calculate a de minimis for increases that are not nonBCC NPDES permit limit increases.

State law at IC 13-18-3-2(q) and (r) with reference to (l)(1) requires that there be a procedure to assign a de minimis for antidegradation.

Wetland filling, stream bank cutting, harbor dredging, increase in existing effluent concentration from an indirect discharger, increase in existing effluent concentration of an NPDES discharger of parameters too low in concentration to need a permit limit, storm water increase outside the parameters with an NPDES effluent limit all will now be illegal without first an antidegradation review no matter how small the increase in loading to a federal jurisdictional water. (For nonjurisdictional waters of the state it is possible for IDEM to develop its own significant lowering threshold because those waters are not regulated by the implementation provisions of this proposed regulation.)

The threshold is related to a "request." This is consistent with a request for new or increased NPDES permit limit but leaves ambiguous the situations of increased in loading of applicability 327 IAC 2-1.3-1(b) for which there is no "request" such as increase in loading of trace existing effluent concentrations that occurs during the course of business or storm water occurrence.

Moreover, there are substances with NPDES permit limits without water quality criteria and thus no way to establish an available loading capacity for the Section 4(c) significant lowering of water quality determination. State law requires a de minimis procedure.

5. Ambiguity for application of availability loading capacity

327 IAC 2-1.3-4(c)(1)

Existing 11.3 is more complete and unambiguous in its explanation.

a) Context of use of available loading capacity in this regulation

The concept of "available loading capacity" is critical to this proposed regulation to determine whether a "new or increased loading" is sufficient to cause a "significant lowering of water quality" and therefore would require an adequate justification by an "antidegradation demonstration" to allow. The available loading capacity is used to set the de minimis loading.

As defined and as used in this proposed regulation, the available loading capacity term is restricted to a parameter that both

1) is regulated by a specific water quality standard and stream design flow enforceable as a point source under an NPDES permit limit AND

2) is a non-BCC.

Situations of new or increased loading other than those with new or increased NPDES permit limit do not have an " available loading capacity" as defined by the regulation and therefore have no de minimis increase. Any increase of any magnitude other than the permit limit automatically requires an antidegradation demonstration.

The proposed regulation changes the use of the available loading capacity compared to the existing regulation and adds the concept of cumulative loading.

b) Ambiguous formula in proposed regulation for NPDES limit

327 IAC 2-1.3-4(c)(1)

A formula for a theoretical antidegradation "available loading capacity" for consideration <u>of a new or increased NPDES permit limit</u> is defined in the proposed regulation (327 IAC 2-1.3-2(2)). It is used by the regulation at 327 IAC 2-1.3-4(c)(1) to calculate whether a threshold for a "significant lowering of water quality" is being proposed to be exceeded by the new or increased NPDES permit limit and thus requiring an antidegradation review to justify the new permit condition.

Unfortunately, the language describing the components to be used for the available loading capacity when it is used in the significant lowering determination is ambiguous. If this is not clarified, legal disputes could

arise as either the regulated or environmental advocates challenge an IDEM interpretation or that IDEM staff interpretation varies over time. The solution is to write a complete unambiguous mathematical formula as is done elsewhere in the current regulation.

EXPLANATION OF ALC AMBIGUITY:

Available Loading Capacity (ALC) means the Total Loading Capacity (TLC) less the Used Loading Capacity (ULC).

Depending on the choice of TLC and of ULC, there can be three different ALC formulations described by the same words in Section 4(c). All three formulations can be described in words as "at the time of request" but they are completely different depending on exactly which TLC and which ULC is meant.

I provide the list below not to endorse any particular ALC for any particular application but just to illustrate that if the proposed language is allowed to stand without stating the ALC to be used in an unambiguous mathematical formula, there may well be serious policy disagreement about which is meant in years ahead.

A. Available Loading Capacity in the water body prior to any NPDES Permit Limit

When the receiving water has no NPDES discharge,

the TLC_0 = SDF[WQS], where SDF = stream design flow
and WQS = water quality standard

the ULC_0 = SDF[background concentration].

$ALC_0 = TLC_0 - ULC_0$

This is an available loading capacity that many think of when the term is used.

B. Available Loading Capacity as a proposed first NPDES permit limit for a substance is calculated

$ALC_p = TLC_p - ULC_0$

where TLC_p = (SDF + PEF)[WQS]
when PEF = Proposed Effluent Flow
and ULC_0 = SDF[background concentration]

This could be the ALC used in Section 4 of the draft rule when measuring 10% for de minimis.

("available loading capacity determined at the time of the specific proposed new or increased loading" 327 IAC 2-1.3-4(c)(1)(A)(i))

C. Available Loading Capacity after the Proposed First NPDES Permit for a Substance is Granted

$ALC_p = TLC_p - ULC_p$

where ULC_p = Proposed Effluent Load + Background Load

This could be the ALC used in Section 4 of the draft rule when measuring the benchmark as 90% of the ALC for antidegradation significant lowering determination for subsequent permit modifications.

("available loading capacity established at the time of the request for the initial increase in the loading" 327 IAC 2-1.3-4(c)(1)(A)(ii))

D. Available Loading Capacity for NPDES Permit Modification

If the standard is for chronic aquatic protection, as the wasteload allocation is converted to a water-quality-based effluent limit, the permitted discharger can only use up to ¼ of the 10-year, 7-day ALC_0 for dilution. ¾ of the low-flow ALC_0 can never be used for dilution (and, of course, no flow above the 10-year low-flow can be considered for dilution) when determining compliance with the WQS. If the discharger were at maximum effluent flow and maximum permit concentration (for practical reasons, this is never done) and using the maximum amount of dilution water available from the stream at low-flow, the three-times as much of the low-flow stream that was used as "available capacity" for dilution is not allowed to be used up. Most days, the stream flow is much larger and none of that "available capacity" is available to the discharger to use to increase load to stream.

[Note that this is different mathematically than the concept of TMDL (Total Maximum Daily Load) as developed practically in recent years by USEPA. TMDL addresses capacity as concentration in stream at any flow, not at stream design flow that the available loading capacity and NPDES permit use. Thus for the TMDL the compliance point is whatever concentration is in the stream when a measurement is taken – that should always be at the water quality standard or less. The NPDES permit limit is a much tighter compliance value as established by use of stream design flow in the water quality criteria and by further constraints in the water quality-based effluent limit applicability of the standard.]

6. Changes definitions in Article 2 (water quality standard) to be inconsistent with Article 5 (NPDES permit) for the critical terms "discharge" and "regulated pollutant."

Antidegradation implementation policy is a bridge between the antidegradation standard, a part of the water quality standard part of regulation and the implementation procedures which appropriately belongs to the part of regulation controlling particular activities. In the existing regulation, the antidegradation implementation procedures controlling NPDES permits are in the NPDES regulation itself.

The proposed regulation puts both the standard and the implementation in Article 2. Article 5 governing NPDES permits stands outside the antidegradation regulation. Also outside Article 2 implementation are the existing and the missing regulatory controls for the other activities governed by the newly expanded implementation rule in Article 2.

It is essential that the terms between the Article 2 implementation and the Article 5 are consistent, ideally identical. The proposed rule creates a two inconsistencies in core terms, namely what substances are addressed and what a discharge means.

a) **Regulated Pollutant Definition** 327 IAC 2-1.3-2(44)

Article 5 governing NPDES permits addresses "pollutants," the core term of the federal Clean Water Act. The proposed regulation changes what antidegradation implementation addresses for NPDES permit limits (and all other nonNPDES permit limit loading increase situations) from "pollutant" to "regulated pollutant," with a different definition.

This is a major change with many consequences that are difficult to assign.

The proposed regulation does not use the new term "regulated pollutant" directly in the antidegradation standard applicability at 327 IAC 1-1.3-1(a) nor in the antidegradation standard in 327 IAC 1-1.3-3(b),(d) or (c)(1)or(2) nor in the applicability of the standard to temporary discharges (327 IAC 1-1.3-4(a)and (b)). It is used directly in the Tier 1 antidegradation standard, changing the applicability from all pollutants to just those that are "regulated pollutants." That is a basic alteration of the fundamental flexibility to consider impaired waters by federal regulation.

The term "regulated pollutant" is used indirectly in the antidegradation standard when "significant lowering of water quality" and "discharge" is used. Instead of the federal focus on all pollutants, these are redefined as restricted to "regulated pollutants."

Regulated pollutant is also directly used when describing the overall improvement requirements in Indiana OSRW.

However, even though "regulated pollutant" is not used directly in the Tier 2 antidegradation standard, all of the implementation of that standard are restricted to "regulated pollutants" (327 IAC 2-1.3-1(b)). Then regulated pollutant is used almost exclusively throughout the implementation parts of the regulation (except for parts such as noncontact cooling water and water treatment additive in 327 IAC 2-1.3-5(b)(3) and (4)).

It is strange that a term integral to the Indiana antidegradation implementation procedures is not used once in the antidegradation standard describing what the implementation is to do.

This change makes the universe of situations covered by implementation smaller than the federal antidegradation standard and larger than the NPDES permit limit in unpredictable ways. The federal standard applies to all conditions of degradation without exception. The existing regulation describes a specific implementation procedure for a subset of situations the standard applies to, namely the new or increased NPDES permit limit. In that regulation, whatever substance or condition that can have a permit limit what is addressed in the implementation. The proposed regulation expands the substances an NPDES permitted discharger must address. For instance the Article 5 NPDES permit restricts the numeric permit limits to particular substances that cause the narrative standards to be exceeded; this propose implantation regulation imposes the narrative criteria themselves as the "parameters" being discharged with an available loading capacity. The purpose of the narrative standard is to identify problems in the receiving water to address, not to assign numeric values directly for an effluent.

Then the question is how does IDEM intend the term "regulated pollutant" to be different than the Article 5 "pollutant" or the Clean Water Act "pollutant?"

Implications of "Regulated Pollutant" definition as written:

i) ***The definition of "regulated pollutant" is not clear.***

The rule defines it as a "parameter of a pollutant," a phrase itself that needs interpretation. Does parameter here mean "component" of a pollutant? Or aspect of a pollutant? Or does it mean that it is not a pollutant in some significant way? Why should a regulated pollutant not simply be a pollutant?

What is the relationship between the "criteria" portion and the "may be in a permit limit" portion of the definition? I am assuming if a "parameter of a pollutant" falls under either category it is a regulated pollutant. Therefore, the subcategory of "excluded" despite a having water quality criteria does not mean excluded from being a regulated pollutant if the parameter could be in a NPDES permit.

ii) ***What does" adopted in or developed pursuant to" 327 IAC 2-1 or 327 IAC 2-1.5 mean?***

Presumably "adopted in" means promulgated by the Board in regulation at the effective date of the new rule or at any time in the future. Then "developed pursuant to" means IDEM uses the calculation procedures in the existing regulation to establish criteria for additional substances based on new toxicity information but does not request the There is no limit to the substances that are "regulated pollutants" using this procedure.

It is not clear whether such a provision is written to include trace compounds with endocrine hormone disrupter characteristic or to exclude them. I could make arguments either way. Similarly with Tier II values: is use of term "criteria" to exclude them or is it intended we revert to former regulatory procedures?

Note that this provision is a moot one because the initial trigger for proposed Tier 2 water degradation is that there not only is an applicable water quality criteria but also a water quality standard that is being achieved in the water for the parameter proposed to be increased.

(The process in the Clean Water Act is first the state determines a water body impaired for a particular reason. Then it establishes water quality criteria for substances specific to that water body and that impairment. Then it establishes the desired designated uses and the appropriate water quality standard. Achievement of that water quality standard for that parameter is what determines whther the water is high quality for that parameter and, in turn, whether an antidegradation review is needed to

allow a new or increased loading of that parameter if the loading would cause significant lowering of water quality. Any crafting of a efficient and effective antidegradation implementation procedure must remain inside that intellectual construct.)

iii) Narrative criteria as a regulated pollutant

The narrative criteria "free-froms" are water conditions caused by pollutants. They are not pollutants themselves. The conditions described do meet the definition of any of the listed pollutants. The narrative criteria are the ways that all of the listed pollutants could cause impairment to the water. To be practical, a regulated pollutant should be the entities that cause pollution and can be named for control; it should not be the water condition to be alleviated.

The regulated pollutant definition itself excludes dissolved oxygen and pH as being conditions of pollution to be addressed, not directly as "regulated pollutants." Those are types of characteristics captured in the narrative criteria.

> The narrative standard in 327 IAC 2-1-6 and 327 IAC 2-1.5-8 says that
>
> "All waters at all times and all places...shall be free from substances, materials, floating debris, oil or scum attributable to municipal, industrial, agricultural and other land use practices, or other discharges:
>
> that will settle to form putrescent or otherwise objectionable deposits that are in amounts sufficient to be unsightly
>
> that produce color, visible oil sheen, odor or other conditions in such a degree to create a nuisance
>
> that are in amounts to kill or severly injure aquatic life or humans unless IDNR approved applications
>
> that are in concentrations that will cause or contribute to growth of algae or aquatic plants to extent to cause nuisance

The narrative criteria is a condition in the water to be avoided, not a pollutant to be loaded.

A "narrative criteria" does not have an available loading capacity to use to determine a de minimis.

As a tool, the narrative criteria must be obeyed when issuing NPDES permits as it must be obeyed when addressing all point and nonpoint source contributions to water quality. It is appropriate to consider when evaluating the relative value antidegradation technical options for loading reductions but it itself makes no sense at all as being a regulated pollutant.

iv) Excluded criteria (biological, pH and dissolved oxygen)

If I understand the regulation, any specific biological material, pH and dissolved oxygen are not a regulated pollutant by virtue of the fact that a water quality criteria exists for them.

But they in fact are all regulated pollutants because a permit may include them. They are definitely included if a permit does include them.

Therefore, it is not clear to be what is intended by the language.

The challenge of pH is not an antidegradation one but a permit one or an uncontrolled release one, not a loading one. High pH (especially high alkalinity) can be good or bad depending on circumstance as can low pH (especially buffered acidity). That is addressed in other parts of the law; antidegradation "lowering" is not well-suited to that for technical reasons. Inadequate dissolved oxygen is a quality impairment that is often related to multiple components of the loading. It cannot be addressed in the same terms as a toxic chemical substance with its loading capacity. But proposed language does not address the special issue of pH and dissolved oxygen in antidegradation correctly. It certainly does not address potential human pathogens in human sewage correctly.

v) "May be limited in an NPDES permit"

what pollutant or substance may not be limited in an NPDES permit? Is this meaning to say the universe of chemicals/biological/physical that could be limited somewhere somehow? That is infinite.

Is this meaning to say that have been limited in an NPDES permit by the means listed somewhere, somehow? That is finite but large and steadily expanding and goes well beyond numeric criteria that "have been adopted in or developed pursuant to" Indiana water quality criteria rules.

Is this referring to a particular NPDES permit situation where IDEM is using one of the listed techniques to establish a particular permit limit for that particular situation? If that is intended, that needs to be stated directly.

There is no reason to add the new term "regulated pollutant" for antidegradation implementation, especially a term inconsistent with terms of the federal and State antidegradation standard and the federal and State NPDES permit regulation terms.

b) "Discharge" definition 327 IAC 2-1.3-2(17)

The proposed regulation changes the definition of "discharge" to "discharge of a regulated pollutant" (327 IAC 2-1.3-2(17) from "discharge of a pollutant" which means "addition of any pollutant.....to any waters of the state from a point source in Indiana" (327 IAC 5-1.5-10 and 11).

That means that "discharge" in Article 2 not only is for a different set of substances than Article 5 but could be considered to apply to any release to water, not just point sources as in Article 5. One key term with two different meanings introduces confusing language regarding when the implementation is restricted to point source and when it is not. Especially with the long history in water law with interpretations based on the original meaning.

It is possible to craft careful language to provide whatever meaning is desired without using a word defined two different ways in two interrelated regulations.

[Fortunately, the proposed regulation does not use the problematic terms "discharge" and "regulated pollutant" in any of its rule language for delegated authority of the federal antidegradation standard. The ambiguous and conflicting terms are only used through the state implementation portions. For instance Section 6 (commissioner determination) uses "discharger" where other parts use "person." Discharge" and "loading" seem to be used interchangeably while the standard itself is focused on loading.]

7. Confusing and internally inconsistent demonstration requirements

a) basic information to be provided for all antidegradation reviews

327 IAC 2-1.3-5(a)

This is for any person with new or increased loading that would cause significant lowering of water quality note exempted. That language correctly mirrors the standard being implemented.

However subsection a) shifts from "loading" as the event regulated to "discharge." The remaining implementation subsections return to "loading" except where from the context on f the sentence it is a facility adding material through a pipe.

However, the only exemption for significant lowering are nonBCC NPDES permit limited substances. Therefore, many substances posing negligible impacts but yet present in amounts above "zero" are incorporated in the information reporting requirements.

i) therefore naming the proposed regulated pollutants proposed to be "discharged" is a huge policy challenge – is it intended to be substances of consequence or to be all regulated pollutants present regardless of the quantity or concentration?

- *regulated pollutants with new or increased permit limit – this application is straight-forward*
- *regulated pollutants in point source discharge without Reasonable Potential to Exceed – is there intended to be a limit of detection de minimis or is presence assumed unless good evidence otherwise of absence – depending on meaning of "developed pursuant to" this list is either long or very long*

- *regulated pollutant in nonpoint source – what is meant to be listed for natural and human contributed storm water runoff from agricultural and other property – to what level of detection is IDEM interested for the list? – this is very long list of potential substances at inconsequential concentrations depending on storm event – this should be targeted to substances of concern*

- *regulated pollutant in wetland filling – makes no sense to list chloride and all other natural chemicals in soil that is being put into water about to be fill with soil- the focus should be on permanent adjustment to water quality for significant pollutants in situation, not listing trace "regulated pollutants"*

- *regulated pollutants in stream bank cutting – this is similar issue to wetland – the focus should be on serious long-term lowering*

- *regulated pollutant in harbor dredging – here understanding chemical quality of sediments that could be stirred up is important – how does antidegradation add to what is done in permit process itself?*

ii) concentration and mass loading of "all regulated pollutants"

For point source NPDES regulated pollutants with new or increased permit limits this is an answerable question. The party could describe roughly the range of discharge possible depending on time of year and circumstances of the purpose for the operation. Hence a maximum effluent flow and

load could be established and a permit limit for a theoretical single situation be developed. Hence there can be an estimated "actual" together with a specific "permitted" load. It is the permitted load that the antidegradation de minimis determination was based on.

For point source regulated pollutants without permit limits and zero de minimis these estimation of range of projected actual "concentration and mass loading" is much more difficult.

For nonpoint source regulated pollutants, I have no idea scientifically how to begin to guess the trace, insignificant substances naturally present with a load increase just because water flow is increasing. Even for human added substances, the calculations would vary from year to year, acre to acre and be dependent on weather conditions.

For wetland filling and stream bank cutting, conceptually I cannot grasp what is expected.

***iii) Map of "discharge"** – this is reasonable*

iv) Condition of receiving water

This is "available information" plus information requested by IDEM. In theory, this is a practical requirement. Although it is easy to see how it could be abused by a government agency that does not want a particular discharge but does not want to make a determination to do that.

As written, this is the general condition but not the condition of the water as related to the regulated pollutants proposed to be increased. For practical reasons, this is probably the best that can be done. However if the purpose of the exercise is to estimate and reduce the impact on the water of a "regulated pollutant" in some way independent of all other factors, then it is unusual that the existing condition is not evaluated. It overcoming technical difficulties as would be posed by a study of existing conditions related to a regulated pollutants that the NPDES permit system is written the way it is.

b) *"beneficial activities" 327 IAC 2-1.3-5(b) and (c)*

Subsections (b) and (d) list information requirements for activities labeled as "beneficial activities." These activities are exempt from the requirement to submit information listed in subsection (g) for a social/economic determination. The implication evidently is that by labeling the activities as "beneficial activities," the Board has made the determination that these activities meet the USEPA requirement for accommodating important social or economic development in the area. I

consider it wise that categories of activities could be considered inherently as always accommodating important social or economic development in the area wherever the loading occurs. However, as written it seems that a party could later challenge that the Commissioner did not make that case with correct information. A way to avoid this is simply to declare in the regulation that the designated activities are exempt from supplying subsection (g) information they do accommodate important social or economic development in the area of the loading.

Simply being a "beneficial activity" per se is not the quality that meets that antidegradation decision criteria.

I would also suggest that section 6(a) which describes how the commissioner makes the "accommodates important social or economic development in the area" determination be expanded to include explicitly the point that a "beneficial activity list in subsection b and d" is "may" consideration for the commissioner, a "must" consider or a "must" approve, depending on what is intended.

c) Inconsistent and redundant requests for technical demonstrations

327 IAC 2-1.3-5(c) and (e)

Some "beneficial activities" (327 IAC 2-1.3-5(b)) need only provide subsection (c) information but not subsection (e). Other beneficial activities(327 IAC 2-1.3-5(d)) and all other activities causing a new or increased loading that is permanent and will cause a significant lowering of water quality must do both.

i) Subsection (e) Information

This subsection is the critical part of the regulation where information about the particular technology will be used to reduce the "significant lowering of water quality." A person is required here to declare a selection of either 1) "Best Available Demonstrated Control Technology" (BADCT) that has already been established by IDEM for that type of loading or 2) "alternative or enhanced treatment standards."

[It must be emphasized that this key component of the demonstration is written exclusively in language of the NPDES permit system. BADCT is defined as a "technology-based effluent limit" and around "wastewater treatment." These terms make no sense for storm water loadings, wetland filling, stream bank cutting and harbor dredging or any situation other than a point source discharge. Similarly "alternative or enhanced treatment techniques" implies treating a point source effluent. There is do direction in subsection e of what is expected as demonstration

information about what actions to take for other than the NPDES Permit Limit increase.]

BADCT makes sense in theory (if the definition is change restricting its use to sewage) but the logistics of IDEM developing and maintaining in advance of any request for an increase, an up-to-date list of all BADCTs for each type of discharge situation makes this promised option seem impractical. The closest analogy is the BACT system in air which has a narrow focus on several pollutants and a large federal and private sector infrastructure assessing developing treatment technologies.

As for "alternative or enhanced treatment techniques," it is not clear from the regulatory language how this differs from subsection c information. There needs to be an unambiguous connection between "e" and "c" – Subsection "c" should evaluate measures to reduce loading according a set of criteria that are identical to what sub section "e" uses to justify selection of an alternative strategy to the proposed permit limit.

The unstated assumption in subsection (e) is that there is an operational setup preferred by the discharger with a proposed new or increased NPDES permit limit increase that complies with the Clean Water Act and state law. The sole focus of (e) is about whether the effluent from that operational system can be treated by a different "technique" than what is proposed or if the treatment technique proposed can be "enhanced" for greater removal of the particular substance. This differs from subsection (c) information in that subsection (c) mentions effluent treatment techniques only indirectly but instead devotes primary attention to pollution prevention (in other words change the process causing the increase in effluent loading to reduce the use of the substance itself).

If this subsection intended to match 327 IAC 1-1.3-1(b) for situations other than NPDES permit limits, then it must be expanded accordingly.

The information to be provided in subsection (e) is

1) *which alternative or enhanced techniques from what would have otherwise worked are now being proposed*

2) *how were those techniques selected*

this provision overlaps greatly with first part of subsection (c);
no pollution prevention is to be considered here because this provision of reasons for selection of a P2 approach is addressed explicitly in subsection (c); apparently this section is only to be used if an effluent treatment technique is changed.

is it assumed that treatment techniques will not be evaluated in subsection (c) or is the written evaluation intended to be the same in both sections of the demonstration?
(presumably this involves establishing a list of criteria for technique evaluation and how the selected techniques and the rejected techniques scored against those criteria; the subsection gives no suggested criteria; subsections (c) and (e) should be coordinated)

3) *the reliability of the techniques selected; extent increased "degradation" from other substances as a result*

(it is not clear why this decision criteria would not be applied to all techniques evaluated but only to the one "selected." Newer techniques will usually be deficient in long-term, real-world reliability experience for the situations to be applied. It is not clear reliability is mentioned by itself and not also "availability," "cost-effectiveness" and "technical feasibility" that are already analyzed in subsection (c) along with "reliability")

Note that if it is a physical treatment technique for an NPDES permit limit substances or if it is a pollution prevention substitute substance, it is virtually certain there will be an increase of another constituent, albeit below concentrations needing a permit limit itself. Since the de minimis for such increases is "zero," there almost always be that "increased degradation" when reducing load of a substance. Including this observation in the analysis is good policy; requiring that such minimal degradation to itself undergo an antidegradation review process as the rule sets up now would be poor policy.

Missing are the criteria discussing the costs and the benefits of the reduction of impact of the loading on the receiving water itself.

[exempt from the subsection (e) requirements for alternative or enhanced treatment evaluation are the following "beneficial activities:" 327 IAC 2-1.3-5(b)

1) change in loading of regulated pollutant due solely either to enforceable municipal or industrial wet weather controls
OR to an individual NPDES storm water permit resulting in no net increase in "quantity and concentration" in 10-digit watershed [seems to imply no net increase at the downstream drain point of watershed, not that is unstated]

2) new or increased load because of CERCLA, RCRA, UST, Petroleum Release, Voluntary Remedial Action or any IDEM-approved correction of any polluted situation

3) new or increased discharge of noncontact cooling water

provided there is a WQBEL, no increase in BCC, no increase of temperature outside a mixing zone (because mercury is in all water and is a BCC, this exemption from the subsection (e) and (g) would not apply for mercury if approved with additional water in discharge; it also would not apply for any other increased trace "regulated pollutant" is at concentration below RPE so not need WQBEL.)

4) new or increased loading of approved nonBCC water treatment additive

5) change in loading of regulated pollutant where there is simultaneous enforceable decrease in the "actual" loading of the regulated pollutant from sources contributing the same regulated pollutant somewhere else in the 10-digit watershed. (It is not clear what an enforceable decrease in "actual" loading over what time period means given that the NPDES permit is an enforceable control on a theoretical daily maximum. Applying a 10-digit watershed means there could be long distance between the increase and decrease. This trade-off is stated differently than a similar 10-digit watershed trade-off at 327 IAC 2-1.3-5(b)(1)(B) so it is not clear what is meant for acceptable off-set by either.)

6) new or increased loading of a regulated pollutant from a sanitary wastewater treatment plant constructed to alleviate a public health concern, such as removing septic systems]

ii) Subsection (c) Information

Overlooking the redundancies between subsection (c) and subsection (e), this subsection (c) that almost all parties with new or increased load must comply with needs much more explanation to be implemented fairly and effectively.

One serious defect in the subsection (c) component is a missing factor for evaluating the relative value of options. When evaluating ways to reduce impact of increased loading a critical factor of evaluation is the context of the nature and degree of the impact of the loading on the receiving body. What are cost-benefits of that? The sole analysis is of the options themselves. That is fine but not complete.

The second defect is the absence of an indication about how much information of what quality is enough. Is a small loading by a small farmer expected to have the same quality of analysis as a major new power plant?

The structure itself has internal overlaps. If no degradation and minimal degradation (5(c)(1)(A) and (B)) are to include all ways to reduce the loading, there is no reason to continue with subsequent requests for the same information (5(c)(1)(C) and 5(c)2(A)).

On the other hand if all degradation mitigation techniques and alternatives "<u>including</u>" the 5(c)(2) list are to be done, ther is no reason to

do a "no degradation" and "minimal degradation" techniques and alternatives.

It is clear what is being requested but it should be rewritten in orderly and clear manner so the party and agency have the same understanding of scope expected for each aspect without redundancy among the requests.

The information to be provided in subsection (e) is

***1A Availability, reliability and cost-effectiveness and technical feasibility* of "no degradation" 327 IAC 2-1.3-5(c)(1)(A)**

for new or increased NPDES permit limit of nonBCC, this means less than the de minimis established as "significant lowering of water quality"
for all other situations addressed in this proposed implementation rule, this means no increase larger than "zero"
(for the NPDES permit limit, this could be a back-of-envelope paragraph or a PhD thesis)

1B Availability, reliability and cost-effectiveness and technical feasibility of "minimal degradation" 327 IAC 2-1.3-5(c)(1)(B)

for new or increased NPDES permit limit of nonBCC, this evidently means greater than the de minimis established as "significant lowering of water quality" but less than allowed for the permit limit by BAT and water quality-based-effluent limits.
for all other situations addressed in this proposed implementation rule, this means increase larger than "zero" but less than whatever would otherwise be legal to do.

1C Availability, reliability and cost-effectiveness and technical feasibility of "degradation mitigation techniques or alternatives"
327 IAC 2-1.3-5(c)(1)(C)

(evidently this is intended to be a catchall in the same way that the first two analyses have no constraints on the measures to be taken to lowering the loading or the impact of the loading; it is not clear what the universe of such measures would be beyond what was analyzed for "no degradation" and analyzed again for "minimal degradation."

The only way this third phrase makes sense is to assume that that really what it means is for a discharger to provide the specific information in A, B, C below and not to repeat the thorough written analysis of all options under minimal degradation and no

degradation. And the only way the three conditions make sense is if they are NPDES permit situations.

If that is the case, the three specific additional analyses are:

2A Pollution Prevention Alternatives

327 IAC 2-1.3-5(c)(2)(A)

Although it is not explained clearly in the regulation, this analysis does not address any effluent treatment technique. Pollution prevention as defined by state law IC 13-11-2-166 and by the definition in this rule is solely about source reduction in industrial processes.
Can you change your industrial process to have no or less load of a particular substance?
This federal concept is applied to industrial point source dischargers. Note that the primary purpose of this 1990 federal law is to avoid industrial shifting pollutants or environmental impacts among water, air and land as is required by the various environmental laws, each addressing single environmental medium. For instance, removing sulfur dioxide from coal combustion creates much more carbon dioxide emissions and sludge to be disposed of on land.

2B Connection to an external treatment works

327 IAC 2-1.3-5(c)(2)(B)

Is it possible to have another party treat your effluent? This seems to be a yes or no question, without regard for the impact on the environment project, the capital and operating costs or even whether it would result in a lower loading than if you were to treat the effluent yourself.

2C For a POTW, with an increase from an indirect discharger, the discharger must perform a complete pollution prevention analysis for the substance to be increased and report CSO outfalls between indirect discharger and the POTW.

327 IAC 2-1.3-5(c)(2)(C)

The trigger is whether "the proposed significant lowering of water quality" is from an indirect discharger.

- *If the increased loading of the substance requires an increased NPDES permit limit for*

the POTW, then the "significant lowering" is determined by the regulation based on the available loading capacity for the POTW and substance.

- *If the increase of a particular substance by the indirect discharger does not require an increase of that substance's limit to the POTW NPDES permit, the regulation is clear at 327 IAC 2-1.3-4(c)(2) that no antidegradation review is needed for substances covered by permit limits. The assumption is that the calculations allow for variations in concentrations over the course of the month and year provided they stay within permit conditions.*

- *However, increases by an indirect discharger for substances where the POTW is not required to have an NPDES permit limit have no de minimis. All such increases from the POTW require a complete antidegradation review and, in this subsection, all such increases require indirect discharger to perform a pollution prevention analysis.*

According to 327 IAC 2-1.3-1(b), the implementation procedures written apply not just to NPDES permit limited substances but to any situation with an increase.

According to 327 IAC 2-1.3-3. any significant lowering of water quality requires and antidegradation review.

According to 327 IAC 2-1.3-4(c), there is no de minimis for a situation other than for a substance from a point source that has an NPDES permit limit. Most "regulated pollutants" (according to the new definition of the proposed rule) that are in an average indirect discharger's discharge and in a an average POTW NPDES permitted discharge do not require an NPDES permit limit. All of these substances will have "zero" as a significant lowering of water quality threshold for the new antidegradation review.

The regulatory procedures are silent on when and how to address these but according to the proposed regulation there can be no increase of a substance without a permit limit above what would be its existing effluent quality without an antidegradation review. Since increases and decreases

of such trace substances occur regularly without measurement, the notion of "existing effluent quality" must be placed into regulatory language in practical terms if the regulation is to be adopted with this new concept. There must be measurement requirements and a variability accounted for so that at least the increase is a real increase of significance.

Performing a pollution prevention analysis on discharges in quantities too small to require a permit limit is something that should carefully considered. It probably should be restricted to be performed only at the time of the five-year permit renewal where all pretreatment is considered. If the substances that trigger the "above zero" trigger are in the intake water from ground water or public water supply, that should be excluded from an automatic pollution prevention analysis but should be its own targeted analysis depending on the situation. Mercury and endocrine hormone disruptors in intake water, for instance, usually are outside the pollution prevention focus of encouraging industry to rethink what they add as chemical components of their processes. And certainly other commercial indirect dischargers are ill-equipped to perform pollution prevention analyses on the intake water. IDEM's fiscal analysis did not include such a number of antidegradation reviews or of regular pollution prevention analyses.

3 Evaluation of Possibility of New Regional Sewage Facilities

327 IAC 2-1.3-5(c)(3)

Every NPDES permit holder and every other person triggering the new antidegradation must include in the antidegradation information an analysis of "availability, cost-effectiveness and technical feasibility" of "central or regional sewage collection" Including those in government planning documents.

This makes no sense for everyone to perform at each antidegradation review.
Is every POTW to pay for an assessment of regional sewers each time they proposed an increase? Is every power plant discharging to a river to perform this analysis for the area some distance from the plant? Is every storm water runoff property owner? Indirect discharger to a POTW? Filling wetland? Cutting stream bank?

This requirement should be restricted to those situations where IDEM has identified that a regional sewage treatment capability is missing and could be useful and to those parties who could be in a position to implement it (e.g. local government units).

4 Evaluate of Possibility of Alternative Point for "Discharging"

327 IAC 2-1.3-5(c)(4)

- ***NPDES Permit Dischargers***

For NPDES permit dischargers, it is clear that a study must be performed of the "availability, cost-effectiveness and technical feasibility" of discharging to another water body with "higher assimilative capacity for the regulated pollutant" and that is not an OSRW.

Clarification needed in the regulation:

- ***"water body"***

The definition of water body for this purpose is critical. Is this intended to be moving water out of a 10-digit watershed to a second watershed? Or is it feasibility of discharging 100 yards downstream? How many options and how far are away are options to be considered?

change "shall" to "may at discretion of IDEM"

At one level, if it is feasible when constructing a new facility to would be good to consider a new facility location, new piping or new ditch to move the effluent to avoid a small stream or a vulnerable stream. On the other hand, it is much less possible for existing facilities with large capital investments in a particular location, such as a sewage treatment plant sited decades ago using gravity to reduce energy costs.

Wielding water from one water body to another on a large scale may have negative consequences for the aquatic community or aquatic recharge potential in the first "water body."

I would make this a "may" provision for existing dischargers. The commissioner may request this study after a written determination that such a study could be protective. I would also include in the study the potential of negative environmental or energy consequences. To perform this for every antidegradation request is enormous waste of effort and unnecessary potential for conflict.

- **NonNPDES Permit Dischargers**

For antidegradation by nonNPDES permit dischargers, understanding what this regulation means is more complex.

An argument could be made that this provision does not apply to nonpoint source dischargers. This argument is that because term "discharge of a pollutant" (327 IAC 5-1.5-11) means addition of any pollutant from a point source in Indiana therefore the "discharge" provision in the proposed subsection (c)(4) also refers to only to point source discharges.

If that is the case, antidegradation review is required for any increase in a permit limit constituent that is above de minimis lowering of water quality or any increase above "zero" for a constituent in a point source that has no limit.

The counterargument is that because the proposed regulation is changing water definitions for Article 2 in a manner inconsistent with Article 5, that Article 5 regulation about NPDES permits does not apply to this provision.

With this logic, while in Article 5 "discharge" is defined as "a discharge of a pollutant" and "discharge of a pollutant" is an addition from a point source (327 IAC 5-1.5-10 and 11), in Article 2 "discharge" is defined as "discharge of a regulated pollutant" without further modification saying it is a point source. The argument further assumes that the Board must mean something different between "pollutant" of Article 5 and "regulated pollutant" of Article 2 or it would not have introduced this new concept for antidegradation.

Therefore, this requirement to evaluate alternate discharge location applies to any increase in loading, whether a point source or not. There is no de minimis for nonpoint sources in this proposed regulation.

Presumably, while "assimilative capacity" is measured at stream design flow for NPDES permit limited constituents, it is measured by total flow at different flows for storm water runoff situations. (Note that a more practical and meaningful way to address the most significant of the

constituents in storm water (nutrients) is to have the policy be terms of annual load instead of assimilative capacity in daily flow.)

A study to divert water flow from a nonpoint source is highly problematic. Is it expected that the water is to be collected in order to be diverted to a new water body? What is a water body in terms of nonpoint source that is running off at many diverse locations?

[Mercury and Section 5

As a ubiquitous element in all surface and ground water with no de minimis for any increase, an antidegradation review will be required for any point or nonpoint source increase in water added to a federal jurisdictional surface water.

Therefore this provision to explore putting the water into another water body will be triggered regularly. That means a standard Section 5 policy will need to be developed about what is higher and lower assimilative capacity for trace mercury between water bodies and how is that to be measured.

[BCC demonstration missing from Section 5

A serious deficiency in Section 5 is that there is no explicit requirement to study the feasibility of substituting a nonBCC for a BCC. The core provision of the federal Great Lakes Initiative is for such a study. GLI targeted its policy toward the industries that would introduce new chemicals in their operation that would have DDT-like and PCB-like. The corresponding federal regulation for the Great Lakes Basin said that if you proposed to do this, the discharger must do a study to determine what it would take to replace the BCC with a nonBCC. This proposed regulation eliminates the prohibition of any increase discharge of BCC to the Great Lakes Basin for waters other than OSRW and eliminates the prohibition of discharge into the Great Lakes Basin OSRW for mercury. The existing regulation did not need the provision to substitute BCC with nonBCC because of the prohibition; remove the prohibition and the substitution study must be added. The provisions in subsection (c) allow for a discharger to evaluate change to nonBCC but neither require it nor give credit for such a review.

A fix can easily be added to the pollution prevention requirement in subsection (c), but for the fact that subsection (b) activities are not required to do subsection (c)]

Subsection (g) – Social/Economic Test

I am not commenting on subsection (g) because the language is that which IDEM requested the General Assembly to adopt. Thus it is in statute. The information requests have redundancies and ambiguities. The regulation does not give any indication about the nature and extent of information expected for any particular topic listed. Nor does it say how the information will be evaluated. Therefore this half of the antidegradation demonstration test is completely at discretion of commissioner to favor one party and not another.

8. "High quality water" definition is critical to implementation of the 1.3 antidegradation standard

327 IAC 2-1.3-2(24)

The proposed high quality water definition (327 IAC 2-1.3-2 (24)) to be used for permit calculation, antidegradation standard and antidegradation implementation procedures, must be modified to be broader and more practical.

The proposed definition is a hybrid of two competing ways to considered impaired waters: overall quality or parameter-specific quality. As a patched together hybrid definition it is not correct for either. Indiana has selected an EPA-approved parameter-specific measure of high quality because that was the most practical approach for assigning NPDES permit limits to protect water quality. The permit limit is a numeric value for one parameter that the government considers protective of a water body and for which the government can measurement compliance. That parameter-specific approach is related to but not the same as overall quality. It is possible to have a water body meet the overall measure of high water quality (e.g. fish and shellfish propagation or recreation) without achieving a particular parameter-specific quality. The inverse is true as well.

In a parameter-specific approach, the characteristic of "high quality" is a condition of the water for a single parameter, it is not a characteristic of the water body as a whole.

If a water is achieving the water quality standard for a particular parameter, then the water is considered to be "high quality water" for that parameter. It is not, as the proposed definition says in its final sentence, automatically a "high quality water" inherently for the water body or for any other parameter. It could be an obviously, seriously impaired water. But regardless, for that single parameter the water quality is "high quality water" and antidegradation Tier 2 standard applies to that parameter if a loading is proposed that would significantly lower the water quality for that parameter for that water quality standard.

A second point is the use of the phrase "water quality criterion" in the final sentence of the definition of high quality water. The condition that determines the high quality water in the parameter-specific approach is not the criterion but the standard. Each water body has a controlling criterion for each parameter based on the designated uses for the water body. The controlling criterion is the water quality standard. That is the

criterion that must be achieved to attain status of high quality water for the parameter.

The "nontransient aquatic organism" is a useful research tool to provide indication about overall water quality but due to logistic reasons, that is not a suitable measure to provide a clear quantitative basis to calculate an unambiguous numeric NPDES permit limit. There are many unresolved technical policy issues: what is the "detection" limit of the analytical procedure to declare a particular trace concentration of a parameter in an organism above a level of confidence to be real enough to declare the water body as not a Tier 2 high quality water for purpose of antidegradation? How nontransient is nontransient? How deep in the sediment? For a sensitive-enough technique "detection" is possible for all naturally present substances. The policy as written makes this an impaired water (Tier I) to which is not allowed any "significant lowering of water quality" regardless of an antidegradation review? (Note that the nontransient phrase is incorrectly connected to sentence. As written the meaning is if a substance is not detected in nontransient aquatic organisms at some level it the water body is high quality. That is not true. The water column may exceed the standard for a particular parameter without detection in an organism. No organisms sampled automatically means no detect and, according to this definition, automatically high quality water.)

The current water quality standards, for better or worse, address only water column components. There are many other related water quality issues such as sediment quality (which Indiana has not yet considered important enough to develop and maintain a serious monitoring program for. The concept of "BCC" was an attempt by USEPA to address the issue of long-term toxicity to a situation it said was unique to Great Lakes Basin that was not addressed in the short-term water quality-based policy of the standard system.

Any further sophistication to the system such as addressing harmful loading of persistent compounds that do not bioaccummulate must be accomplished by establishing a scientifically-sound, practical implantation procedure with an appropriate controlling document and enforcement procedure.

Dropping the idea of concentration of chemicals in different organisms into the pollutant-specific approach for the mathematical system developed for the consistent assignment of an NPDES permit limit prevents the delicate NPDES permit system from doing its function.

If the first part of the definition is needed for federal reasons, would suggest the final sentence be rewritten to say something like: ***"A water body that has a concentration of a pollutant attaining the water quality standard established for that pollutant in that water body is considered to be a water body of high quality water for that pollutant for the purpose of this rule."***

(In the Indiana approach, "high quality" is the condition of a water that is achieving a water quality standard for a particular parameter. Antidegradation demonstration is required for any significant lowering within the water condition of achieving the standard for that parameter. Period. Talking about it as a water body can result in awkward and incorrect definitions. Tier 1, in our approach, is also about the condition of the water. It is the inverse of Tier 2. Where a standard for a particular parameter is not being met, the water condition is "impaired" for that parameter. "Tier 2.9 and Tier 3" are completely different ideas; those indeed are actual bodies of water with physical boundaries assigned by law independent of water quality.

The proposed regulation has this idea stated perfectly correctly and simply at 327 IAC 2-.3-3(b)(1) where it establishes the antidegradation standard. All implementation text should be written directly off this concept.)